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ABSTRACT

This guide explains the results and other information contained in the "Test Item Analysis Report," the "Test Item Report Summary," the "School Report," and the "District Report" for the Massachusetts Comprehensive Assessment System (MCAS) tests of spring 2002.The report contains these sections: (1) "Document Purpose"; (2) "Reporting of the 2002 MCAS Test Results"; (3) "General Guidelines for the Interpretation and Use of MCAS Reports"; (4) "Understanding the 'Test Item Analysis Report' and 'Test Item Analysis Report Summary'"; and (5) "Understanding the 'School" and 'District' Reports." Appendixes discuss the conversion of raw to scaled scores and present a list of MCAS related resources. (SLD)

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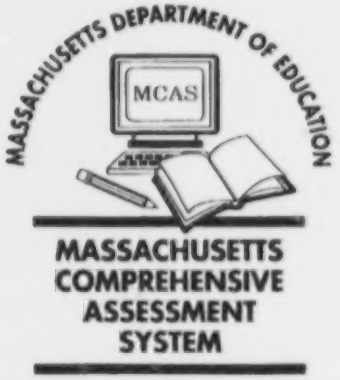

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Guide to Interpreting the Spring 2002 Reports for Schools and Districts

Massachusetts Department of Education

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Commissioner's Foreword

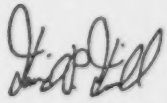
Dear Superintendents, Principals, and Directors of Charter Schools, Approved Private Special Education Schools, Institutional Schools, Collaboratives and Other Interested Parties:

This guide is intended to further explain results and other information contained within the *Test Item Analysis Report* and the *Test Item Report Summary*, the *School Report*, and the *District Report* for the Massachusetts Comprehensive Assessment System (MCAS) tests of spring 2002. We hope that you will find it useful as you review the results for your school and/or district.

The MCAS tests are an important part of our state's effort to improve teaching and learning across the Commonwealth. It is vital that all teachers, administrators, and parents understand the MCAS testing program, as all have essential roles to play in helping students to succeed. The state is committed to working in partnership with schools and communities to improve the academic achievement of all public school students in Massachusetts.

If you have questions after reviewing this guide and your reports, please contact MCAS Support Services at 1-800-737-5103.

Sincerely,



David P. Driscoll
Commissioner of Education

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I. Document Purpose

The purpose of this document is to support local educators' use of district and school reports of results from the spring 2002 administration of the Massachusetts Comprehensive Assessment System (MCAS) tests. This document describes and explains how to interpret information provided in the following MCAS reports:

- *MCAS Tests of Spring 2002: Test Item Analysis Report*
- *MCAS Tests of Spring 2002: Test Item Analysis Report Summary*
- *MCAS Tests of Spring 2002: School Report*
- *MCAS Tests of Spring 2002: District Report*

These reports contain information that will be valuable to local educators in their efforts to improve curriculum and instruction to better serve the academic needs of all their students. In addition, this document can help school and district personnel communicate with parents and members of their communities about the MCAS test results.

II. Reporting of the 2002 MCAS Test Results

The table below shows the MCAS tests administered in spring 2002 and how results for each of these MCAS tests are reported.

MCAS Results Reported in 2002					
Grade	**Content Area**	**Raw Score**	**Scaled Score**	**Performance Level**	**Test Item Analysis**
3	Reading[1]	*		*	*
4	English Language Arts	*	*	*	*
	Mathematics	*	*	*	*
5	Science and Technology/Engineering[2]	*			Student-level only
	History and Social Science[4]	*			Student-level only
6	Mathematics	*	*	*	*
7	English Language Arts	*	*	*	*
8	Mathematics	*	*	*	*
	Science and Technology/Engineering[2]	*			Student-level only
	History and Social Science[4]	*	*	*	*
9/10	End of Course Science and Technology/Engineering Question Tryouts[3] • Biology • Chemistry • Earth Science • Integrated Science • Introductory Physics • Technology and Engineering				

MCAS Results Reported in 2002 cont d					
Grade	**Content Area**	**Raw Score**	**Scaled Score**	**Performance Level**	**Test Item Analysis**
10[4]	English Language Arts	*	*	*	*
	Mathematics	*	*	*	*
Grade 10 Retest	English Language Arts	*	*	*	Student-level only
	Mathematics	*	*	*	Student-level only

NOTES:

1. As in 2001, results from the grade 3 MCAS Reading test are reported as performance levels and raw scores. No scaled scores are reported for the grade 3 Reading test.

   The 2002 Reading test is linked to the 2001 Reading test so that the standards established can be maintained and performance level results can be compared from year to year.

   Raw score results, however, are not linked from year to year. Therefore, direct comparisons should not be made between raw scores on the 2001 and 2002 Reading tests.

2. The first operational MCAS tests in Science and Technology/Engineering at grades 5 and 8 will be administered in the spring of 2003. Standard setting meetings will be conducted in the summer following testing. Performance level and scaled score results for students, schools, and districts will be reported.

3. The purpose of a question tryout is to generate information about test items to assist in the development and selection of items for future operational version of the tests. No student-, school-, or district- level results are reported from this question tryout.

   A second question tryout administration of the discipline-specific Science and Technology/Engineering tests will be administered in the spring of 2003. *Test Item Analysis Reports* will be issued from that administration.

4. At grade 10, testing in History and Social Science was suspended in 2002 in anticipation of a future shift in the focus of the *Curriculum Framework* learning standards tested from World History to U.S. History.

   A revised History and Social Science *Curriculum Framework* was released for public comment in the spring of 2002 and adoption of revised *Framework* by the Board of Education is anticipated during the 2002-2003 school year. Because of the anticipated changes to the *Framework* and the schedule for adoption, there will be no MCAS tests administered in History and Social Science in the spring of 2003.

III. General Guidelines for the Interpretation and Use of MCAS Reports

ALIGNMENT OF CURRICULUM AND INSTRUCTION

Test results contained in the 2002 reports should be interpreted with respect to alignment of curriculum and instruction to the standards defined in the Massachusetts *Curriculum Frameworks*. School- and district-level results will help teachers and administrators evaluate how well their curriculum and instruction are aligned with the *Frameworks*. As students and teachers acquire more experience with the standards in the classroom, test results should show student progress.

USE OF MCAS STUDENT-LEVEL RESULTS

MCAS results are intended to evaluate how well students and schools are achieving the learning standards contained in the *Curriculum Frameworks*. Individual student results and school-level results will help teachers and parents focus on areas in which students need assistance in order to improve performance.

MULTIPLE DATA POINTS NEEDED FOR TREND ANALYSIS

Results from the 2002 MCAS tests should be evaluated in conjunction with test results from 1998–2001. As with any evaluation, school and district test results are most meaningful when compared with other indicators and when examined over *several* years for long-term trends in performance.

STATE REGULATIONS REGARDING CONFIDENTIALITY OF STUDENT RECORDS

The Massachusetts Student Record Regulations (603 CMR 23.00) and the Family Educational Rights and Privacy Act (FERPA) require that access to individual student results, including those provided in the *MCAS Test Item Analysis Report* and the *MCAS Parent/Guardian Report*, be restricted. Students' records, containing all of the information that is maintained regarding each student that is not contained in the transcript, generally cannot be examined by anyone other than the student, his or her parents or guardians, and authorized school personnel without consent from the parent or student. By law, a student's temporary record is destroyed no later than seven years after the student transfers, graduates, or withdraws from the school system.

Superintendents and principals are responsible for maintaining the privacy and security of all student records. In accordance with these state and federal regulations, authorized school personnel shall have access to the student records of students to whom they are providing services, only when such access is required in the performance of their official duties.

For more information on this topic, refer to the Massachusetts Department of Education publication, *Student Records: Questions, Answers, and Guidelines*, 2002.

MAKING COMPARISONS AMONG STUDENTS, SCHOOLS, AND DISTRICTS

Performance levels are the most appropriate statistic to use when making comparisons of MCAS results among students, schools, and districts. When interpreting the meaning of these comparisons, however, it is important that decision makers—teachers, administrators, and policy makers—recognize that some apparent differences in scaled scores may not be statistically or educationally significant. Some guidelines for comparing results are explained on the next page.

As in 2001, results from the grade 3 MCAS Reading test are reported as performance levels and raw scores. No scaled scores are reported for the grade 3 Reading test.

The 2002 Reading test is linked to the 2001 Reading test so that the standards established can be maintained and performance level results can be compared from year to year.

Raw score results, however, are not linked from year to year. Therefore, direct comparisons should not be made between raw scores on the 2001 and 2002 Reading tests.

IV. Understanding the Test Item Analysis Report *and the* Test Item Analysis Report Summary

OVERVIEW

The *Test Item Analysis Report* and *Summary* provide results from the MCAS tests of spring 2002 for students tested in grades 3, 4, 5, 6, 7, 8, 10 and retests. This MCAS report shows how each student tested in a school

- answered every common multiple-choice question
- performed on each common open-response and short-answer question
- performed on the English Language Arts Composition (writing prompt)

The report also summarizes overall performance at the school, district, and state levels for each of these items. Each school receives a separate *Test Item Analysis Report* for each subject area and grade tested in the school. Reports for English Language Arts differ slightly in structure from those for Mathematics, Science and Technology/Engineering, and History and Social Science as detailed below.

This detailed information at the student, school, and district levels can be used for

- identifying strengths and weaknesses exhibited by students
- curriculum evaluation and planning in the classroom, school, and district
- summary reporting to parents and the public (See caution regarding confidentiality of student records below.)

As noted above, the *Test Item Analysis Report* shows results for MCAS common items, the basis for all student-level MCAS scores. The report is designed to be used in conjunction with the publication, *The Massachusetts Comprehensive Assessment System: Release of Spring 2002 Test Items*, which shows all the questions upon which the *Test Item Analysis Report* is based. When the report and the publication are used together, educators are provided with a detailed picture of student performance. This picture should be used in combination with other information from the classroom to develop a broad-based overview of students' academic achievement.

CAUTION: *Confidentiality of Student Records.* The Massachusetts Student Record Regulations (603 CMR 23.00) and the federal Family Educational Rights and Privacy Act (FERPA) require that access to individual student results, including those provided in the *MCAS Test Item Analysis Report*, be restricted to the student, his/her parents/guardians, and authorized school personnel. Because the *Test Item Analysis Report* provides individual student level results for all students tested in a particular school, schools must not provide parents/guardians with direct access to the school's report. To facilitate the sharing of individual student results contained in the *Test Item Analysis Report* with parents/guardians, a *Test Item Analysis: Student Report* is provided for each student. Each *Test Item Analysis: Student Report* contains all of the student-level results included on the *Test Item Analysis Report*.

Superintendents and principals are responsible for maintaining the privacy and security of all student records. In accordance with these state and federal regulations, authorized school personnel shall have access to the student records of students to whom they are providing services, only when such access is required in the performance of their official duties.

A. English Language Arts *Test Item Analysis Report* and *Test Item Analysis Report Summary*

Massachusetts Department of Education
MCAS TESTS OF SPRING 2002
Test Item Analysis Report
English Language Arts

SCHOOL: FICTITIOUS SCHOOL
SCHOOL ID #: 00000000
DISTRICT: FICTITIOUS DISTRICT
GRADE: 4 PAGE: 1

See Test Item Analysis Report Summary for legend.

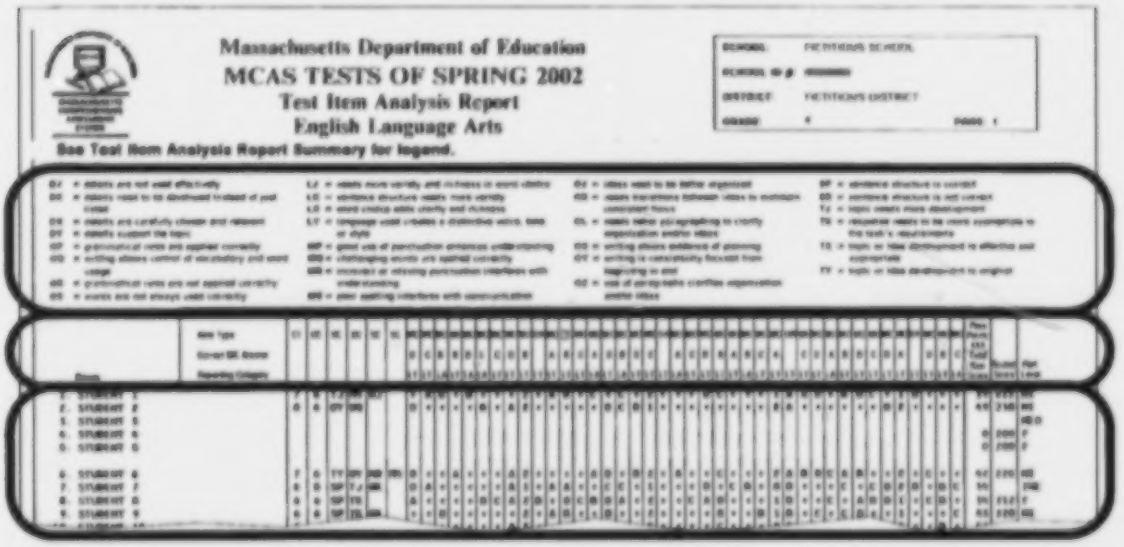
SCORER COMMENTS (scorer comments in SC column, item 1)

DJ = details are not used effectively
DK = details need to be developed instead of just listed
DX = details are carefully chosen and relevant
DY = details support the topic
GP = grammatical rules are applied correctly
GQ = writing shows control of vocabulary and word usage
GR = grammatical rules are not applied correctly
GS = words are not always used correctly
LJ = needs more variety and richness in word choice
LK = sentence structure needs more variety
LX = word choice adds clarity and richness
LY = language used creates a distinctive voice, tone or style
MP = good use of punctuation enhances understanding
MQ = challenging words are spelled correctly
MR = incorrect or missing punctuation interferes with communication
MS = poor spelling interferes with communication
OJ = ideas need to be better organized
OK = needs transitions between ideas to maintain consistent focus
OL = needs better paragraphing to clarify organization and/or ideas
OX = writing shows evidence of planning
OY = writing is consistently focused from beginning to end
OZ = use of paragraphs clarifies organization and/or ideas
SP = sentence structure is correct
SR = sentence structure is not correct
TJ = topic needs more development
TK = response needs to be more appropriate to the task's requirements
TX = topic or idea development is effective and appropriate
TY = topic or idea development is original

| Name | Item Number | | |

INDIVIDUAL STUDENT RESULTS: ENGLISH LANGUAGE ARTS

Individual student results for all common English Language Arts test items are provided in the first section of this report. The number of pages that comprise this section will depend upon the total number of students at the tested grade.


Massachusetts Department of Education
MCAS TESTS OF SPRING 2002
Test Item Analysis Report
English Language Arts
See Test Item Analysis Report Summary for legend.

1.

2.

3.

1. Scorer Comments: Codes Used to Indicate Writing Performance

In addition to receiving a score on the English Language Arts Composition test, each student's writing performance received a minimum of two, and a maximum of four, comments about strengths or areas needing improvement in the student's writing.

The box at the top of the English Language Arts *Test Item Analysis Report* labeled Scorer Comments (Section 1) lists the two-letter codes used by scorers to indicate comments on a student's writing performance, e.g., "TX=topic or idea development is effective and appropriate" on the English Language Arts composition test. Results according to these codes appear in the columns marked SC.

See Test Item Analysis Report Summary for legend.

SCORER COMMENTS (scorer comments in SC columns, Item 1)

DJ = details are not used effectively
DK = details need to be developed instead of just listed
DX = details are carefully chosen and relevant
DY = details support the topic
GP = grammatical rules are applied correctly
GQ = writing shows control of vocabulary and word usage
LJ = needs more variety and richness in word choi
LK = sentence structure needs more variety
LX = word choice adds clarity and richness
LY = language used creates a distinctive voice, tor or style
MP = good use of punctuation enhances understar
MQ = challenging words are spelled correctly
MR = incorrect or missing punctuation interferes w

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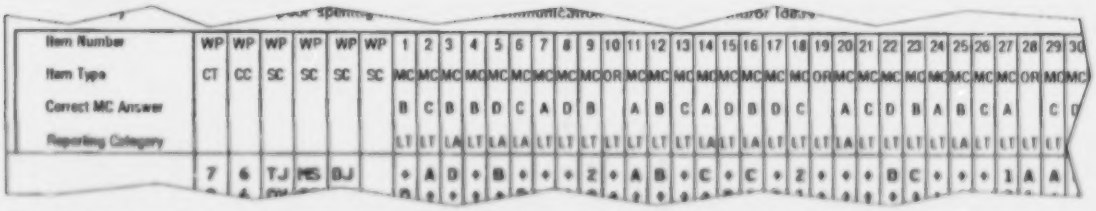
2. Item Information



Item Number	WP	WP	WP	WP	WP	WP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Item Type	CT	CC	SC	SC	SC	SC	MC	MC	MC	MC	MC	MC	MC	MC	MC	OR	MC	MC	MC	MC	MC	MC	MC	MC	OR	MC	MC	MC	MC	MC	MC	MC	MC	OR	MC	MC
Correct MC Answer							B	C	B	B	D	C	A	D	B		A	B	C	A	D	B	D	C		A	C	D	B	A	B	C	A		C	D
Reporting Category							LT	LT	LA	LT	LA	LA	LT	LT	LT	LT	LT	LT	LT	LA	LT	LA	LT	LT	LT	LA	LT	LT	LT	LT	LA	LT	LT	LT	LT	LT
	7	6	TJ	MS	BJ		◆	A	D	◆	B	◆	◆	◆	2	◆	A	B	◆	C	◆	C	◆	2	◆	◆	◆	D	C	◆	◆	◆	1	A	A	

The graphic above (Section 2) shows columns that contain four types of information—item number, item type, correct multiple-choice answer, and reporting category—for each MCAS English Language Arts common item.

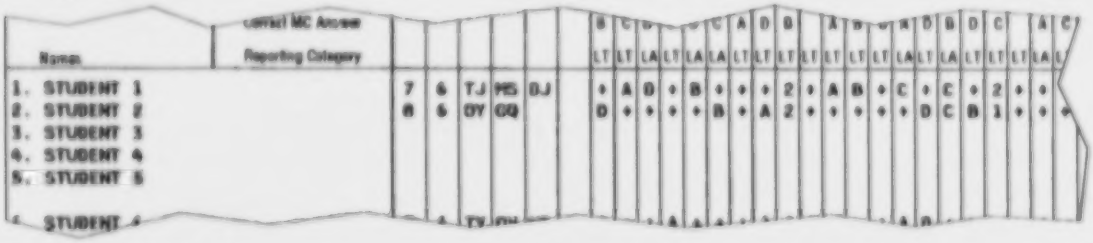
Item Number corresponds to the number of the question as it appears in the *Release of Spring 2002 Test Items* publication. The writing prompt is indicated as WP in all of the first six Item Number columns.

Item Type indicates whether the item was a multiple-choice (MC) or open-response (OR) question. Note that the first six columns contain information about performance on the Composition. These columns show the scores and comments for the Composition: a numeric score for topic development (CT); a numeric score for writing conventions (CC); and up to four scorer comments about the student's writing performance (SC). See below (Body of the Report) for further explanation about the data in these columns and their interpretation.

Correct MC Answer provides the letter option (A, B, C, D) for the correct answer for multiple-choice questions.

Reporting Category indicates the sub-area in English Language Arts in which each question is reported in the *School* and *District Reports*. Reporting category codes are explained in the Legend (details on this section are provided on page 14 of this document) on the *Test Item Analysis Report* summaries. Columns containing scorer comments are indicated under the reporting category code SC.

3. Body of the Report



Name	Correct MC Answer / Reporting Category																																			
								B	C	D		C	A	D	B		A	B		C	D	B	D	C		A	C
								LT	LT	LA	LT	LA	LA	LT	LT	LT	LT	LT	LT	LT	LA	LT	LT	LT	LA	LT	LT	LT	LT	LA	L
1. STUDENT 1		7	6	TJ	MS	BJ		◆	A	D	◆	B	◆	◆	◆	2	◆	A	B	◆	C	◆	◆	◆	2	◆	◆
2. STUDENT 2		8	6	DY	GQ			D	◆	◆	◆	◆	B	◆	A	2	◆	◆	◆	◆	◆	D	C	B	1	◆	◆	◆
3. STUDENT 3																																				
4. STUDENT 4																																				
5. STUDENT 5																																				
6. STUDENT 6				TY	GQ																															

Individual Student Results

Section 3 lists all students in the tested grade alphabetically by last name. This section contains a row for each student enrolled in the school on the first day of testing. For students who are not included in the computation of aggregate school- and district-level results (see page 25 of this document), individual item results are provided, but no scaled score or performance level is reported. Where the performance level would be reported, there will be a two- or three-letter code used to identify the reason why this student was not included in the aggregate results. These codes appear in the Legend on the *Test Item Analysis Report* summaries. A small number of students may receive a code of

"INC" signifying that there was incomplete data (e.g., the student's answer booklet and composition could not be matched, or the student responded in more than one answer booklet), and, therefore, no results could be calculated.

For **multiple-choice questions,**

- a + sign in any MC column indicates that the student answered the question correctly;
- a letter indicates the incorrect option (A, B, C or D) that was selected;
- a blank indicates that the student did not answer the question or selected more than one response.

Open-response questions were scored on a 0 through 4 scale; the student's scores for open-response questions are shown in the OR columns.

Writing scores and scorer comments for students' compositions are indicated by numbers or codes in the six **writing prompt** (WP) columns (section 1). Each student's composition was scored independently by two scorers. Each scorer gave the composition two separate scores:

- a score of 1-6 in **topic development** (CT), e.g., writing development, organization, use of detail, variety in sentence structure and language; and
- a score of 1–4 for the student's use of standard English writing **conventions** (CC), e.g., grammar, punctuation, mechanics of writing.

The student's score as shown in each of these two columns (CT and CC) represents the total of the points awarded in each area by both scorers. Any student who wrote a totally illegible composition, wrote an off-topic response, or who wrote in a language other than English was given a notation of NS (not scorable), which is shown as NS in this report. Zero points were awarded in such cases.

Each scorer was required to note two comments about the student's writing: one in the area of topic development and one in the area of conventions. If both scorers selected the same comment, it is listed only once on the report. These scorer comment codes are shown in the SC columns and defined on page 9 of this document.

Summary Scores

The final three columns of each row contain summary information about the student's performance. The student's **Total Score** is shown at the top of the column following the final item, reported in terms of "raw" score points attained in English Language Arts. The student's Total Score was calculated by adding one point for each correct multiple-choice (MC) question to the student's scores for each open-response (OR) question and the Composition (CT and CC).

The **Total Possible Points** shown at the top of the column following the final item indicates the total possible "raw" score points attainable on the MCAS English Language Arts test.

The student's scaled score is shown in the next column to the right, reported on a scale ranging from 200 to 280. This scaled score translates to one of the four MCAS performance levels, which is indicated in the final column.

RESULTS AGGREGATED AT THE SCHOOL, DISTRICT, AND STATE LEVELS

The English Language Arts *Test Item Analysis Report* summary (sample below) show the performance of students on common test items aggregated at school, district, and state levels, as appropriate.

Massachusetts Department of Education
MCAS TESTS OF SPRING 2002
School Test Item Analysis Report Summary
English Language Arts

SCHOOL/ID #: FICTITIOUS SCHOOL/0000
DISTRICT/ID #: FICTITIOUS DISTRICT/0000

GRADE: 4

Number of Students Included: 300

SAMPLE REPORT-
FICTITIOUS DATA

Item Number	Item Type	Reporting Category	AVERAGE ITEM SCORE: School	District	State	PERCENTAGE OF SCHOOL'S TOTAL STUDENT RESPONSES: Blank /0	A/1	B/2	C/3	D/4	Correct MC Answer
	WP	CT	7.29	7.29	7.18	N/A	N/A	N/A	N/A	N/A	
	WP	CC	6.04	6.04	5.97	N/A	N/A	N/A	N/A	N/A	
1	MC	LT	0.50	0.50	0.53	0	25	16	50	7	C
2	MC	LT	0.68	0.68	0.71	1	6	68	10	15	B
3	MC	LA	0.59	0.59	0.61	1	8	59	15	16	B
4	MC	LT	0.73	0.73	0.78	0	18	1	7	73	D
5	MC	LA	0.63	0.63	0.71	0	3	25	68	4	C
6	MC	LA	0.72	0.72	0.67	0	72	13	10	5	A
7	MC	LT	0.33	0.33	0.47	0	24	12	24	38	
8	MC	LT	0.51	0.51	0.59	0	41	51	4		
9	OR	LT	1.69	1.69	1.75	7	22	65	6		
10	MC	LT	0.81	0.81	0.77	1	04	9		7	A
11	MC	LT	0.86	0.86	0.86	0	35				B
12	MC	LT	0.60	0.60	0.57	1				5	
13	MC	LT	0.74	0.74	0.69			4	10		
14	MC	LA	0.53	0.53	0.5			8	11		D
15	MC	LT	0.50	0.50	0.46		6	50			
16	MC	LA	0.31	0.31	0.34	0	16	9	9	5	D
17	MC	LT	0.55	0.55	0.5	1				15	C
18	OR	LT	1.8	1.8	1.83				20	0	
19	MC	LT		0.87	0.87				5	1	A
20	MC	LA	0.67	0.6				21	67	1	C
21	MC		0.54				18	17	19	54	D
22	MC		0.56	0	0.5	0	9	56	16	19	B
23	M		0.46	0.4	0.46	1	46	7	31	15	A
24	MC	LT	0.8	0.8	0.81	0	4	86	7	3	B
25	MC	LA	0.6	0.64	0.65	0	22	8	64	6	C
26	MC			0.57	0.72	0	67	2	11	20	A
27	OR	L	1.52	1.52	1.59	20	24	43	13	2	
28	MC	LT	0.38	0.38	0.39	1	27	35	32	5	C
29	MC	LT	0.76	0.76	0.70	1	9	10	4	76	D
30	MC	LT	0.53	0.53	0.55	1	53	12	8	26	A
31	MC	LA	0.65	0.65	0.63	1	3	68	13	15	B
32	MC	LT	0.69	0.69	0.59	1	18	13	8	60	D
33	MC	LT	0.62	0.62	0.56	1	5	7	62	24	C
34	MC	LT	0.61	0.61	0.56	2	7	10	21	61	D
35	MC	LT	0.72	0.72	0.77	1	78	5	6	10	A
36	OR	LT	1.74	1.74	1.64	10	24	52	13	1	
37	MC	LT	0.75	0.75	0.65	1	4	10	1	75	D
38	MC	LT	0.82	0.82	0.71	1	4	82	8	4	B
39	MC	LT	0.57	0.57	0.63	1	15	13	57	14	C
40	MC	LA	0.65	0.65	0.70	1	1	65	14	18	B
		TOTAL	0.59	0.64	0.66						

LEGEND

Item Numbers can be directly cross-referenced to item numbers in the MCAS document, *Release of Spring 2002 Test Items.*

ITEM TYPE
MC = Multiple-choice item
OR = Open-response item
WP = Writing prompt

REPORTING CATEGORY
LA = Language
LT = Literature
CT = Composition, Topic/Idea Development Score
CC = Composition, Conventions Score
SC = Scorer Comments (Scorer comments are provided here although they are not a reporting category.)

PERFORMANCE LEVEL CODES
= Advanced
= Proficient
= Needs Improvement
= Warning
INC = Incomplete data
MED = medically-documented absence
ALT = alternate assessment
LEP = Limited English Proficient and in school in the U.S. three years or less

KEY TO SCORE CODES
Multiple-choice items:
1 = correct answer (1 point earned)
A, B, C, or D = incorrect answer choice (0 points earned)
blank space = no answer chosen (0 points earned)

Open-response questions:
0, 1, 2, 3, or 4 = number of points earned by response
blank space = no answer provided (0 points earned)

Writing Prompts:
Topic/Idea Development (CT):
2 through 12 = number of points earned for topic/idea development
NS = non-scorable composition written (0 points earned)

Conventions (CC):
2 through 8 = number of points earned for conventions
NS = non-scorable composition (0 points earned)
blank space = no composition written (0 points earned)

Scaled Score Codes:
200-280 = scaled scores
blank space = student not included in summary

1. 2. 3.

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1. Average Score

AVERAGE ITEM SCORE

Item umber	Item Type	Reporting Category	School	District
	WP	CT	7.29	7.29
	WP	CC	6.04	6.04
1	MC	LT	0.50	0.50
2	MC	LT	0.68	0.68
3	MC	LA	0.59	0.59
4	MC	LT	0.73	0.73

This section shows aggregated data for the school, district, and state, as appropriate. Items are listed by item number, type, and reporting category, as explained earlier in this chapter. The table shows, for the school, district, and state, the average score for each multiple-choice question, open-response question, and the writing prompt. For multiple-choice questions which are scored 1 or 0, the average score is equivalent to the percentage of students who answered the question correctly. The total at the bottom of the column is the sum of the individual item scores. These statistics will help educators compare the performance of students in the school to students in the district and across Massachusetts, and identify strengths and weaknesses in local curriculum and instruction.

2. Percentage of School's Total Student Responses

PERCENTAGE OF SCHOOL'S TOTAL STUDENT RESPONSES

(for each MC answer or OR score point)

	Blank /0	A/1	B/2	C/3	D/4	Correct MC Answer
18	N/A	N/A	N/A	N/A	N/A	
7	N/A	N/A	N/A	N/A	N/A	
5	0	25	18	50	7	C
1	1	6	68	10	15	B
1	1	8	59	15	18	B

This section shows two kinds of aggregated data:

- For each **multiple-choice question**, the section shows the percentage of students in the school who chose each answer option (blank, A, B, C, or D). The correct answer is provided in the far right column. This information allows educators to analyze students' mistakes and identify possible misconceptions held by students in the school.
- For **open-response questions**, the section shows the percentage of students in the school at each score point (blank/0, 1, 2, 3, or 4). These data can be used in conjunction with item rubrics and sample student work available on the Department of Education website at **www.doe.mass.edu/mcas/student.**

3. Legend

This section is provided as a quick reference for anyone reviewing the *Test Item Analysis Report: English Language Arts*. It explains and gives additional information on how to interpret codes that appear throughout the report.

The information on **Item Numbers** and **Item Type** applies to both the *Test Item Analysis Report* and the *School Test Item Analysis Summary*.

Reporting Category information given here refers to the two- and three-letter codes that appear in columns (above the horizontal line) within the first section of the *Test Item Analysis Report: English Language Arts*.

The information given in the **Key to Score Codes** section explains the symbols, letters, and numbers used to report students' performance.

LEGEND

Item Numbers can be directly cross-referenced to item numbers in the MCAS document, *Release of Spring 2002 Test Items*.

ITEM TYPE
MC = Multiple-choice item
OR = Open-response item
WP = Writing prompt

REPORTING CATEGORY
LA = Language
LT = Literature
CT = Composition, Topic/Idea Development Score
CC = Composition, Conventions Score
SC = Scorer Comments (Scorer comments are provided here although they are not a reporting category.)

PERFORMANCE LEVEL CODES
A = Advanced
P = Proficient
NI = Needs Improvement
W = Warning
INC = Incomplete data
MED = medically-documented absence
ALT = alternate assessment
LEP = Limited English Proficient and in school in the U.S. three years or less

KEY TO SCORE CODES
Multiple-choice items:
+ = correct answer (1 point earned)
A, B, C, or D = incorrect answer choice (0 points earned)
blank space = no answer chosen (0 points earned)

Open-response questions:
0, 1, 2, 3, or 4 = number of points earned by response
blank space = no answer provided (0 points earned)

Writing Prompts:
Topic/Idea Development (CT):
2 through 12 = number of points earned for topic/idea development
NS = non-scorable composition written (0 points earned)

Conventions (CC):
2 through 8 = number of points earned for conventions
NS = non-scorable composition (0 points earned)
blank space = no composition written (0 points earned)

Scaled Score Codes:
200-280 = scaled scores
blank space = student not included in summary

Process No.: 0000000-0TIASEP-0000-07250-2

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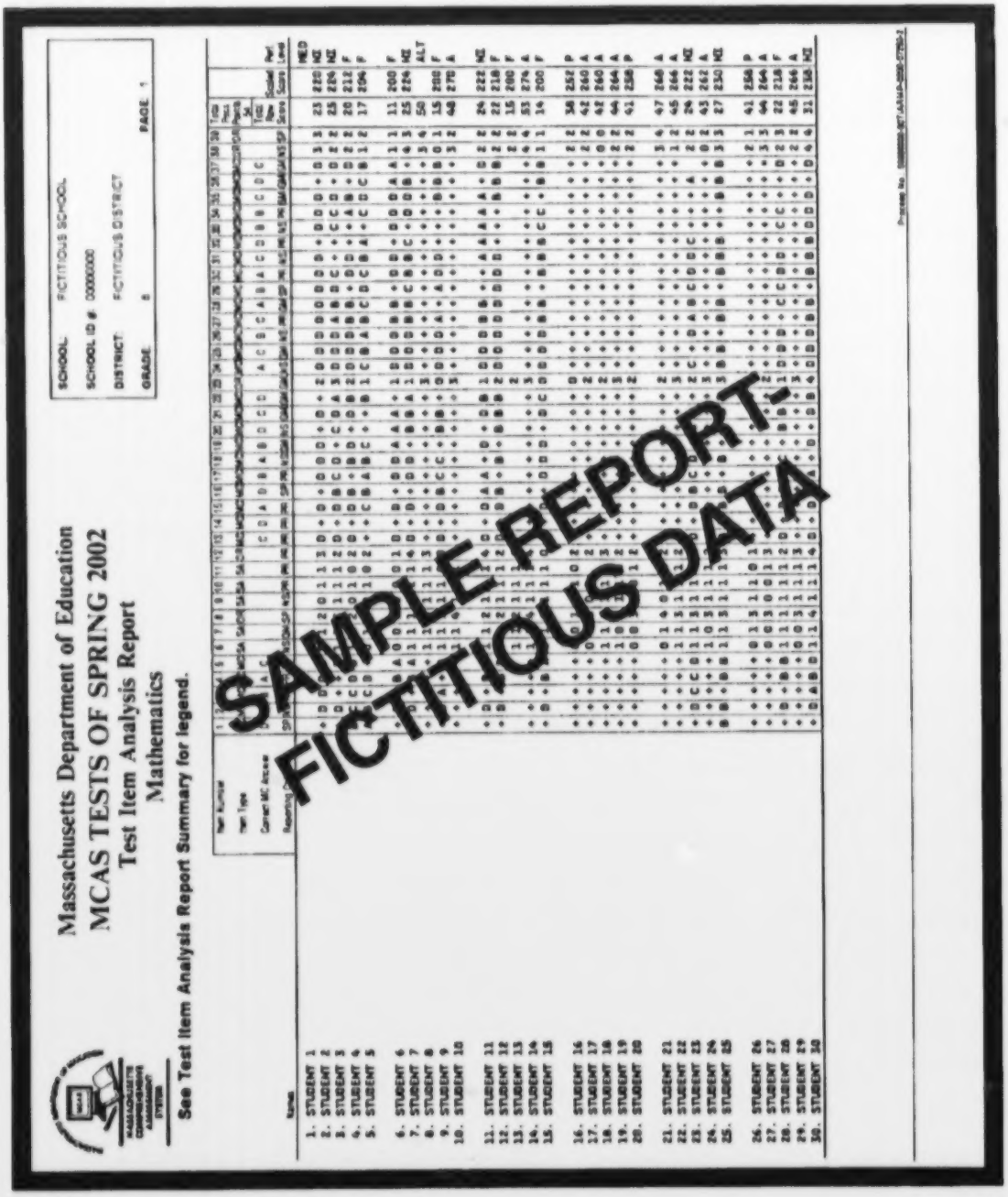
B. Reading (Grade 3), Mathematics, Science and Technology/Engineering, and History and Social Science *Test Item Analysis Reports* and *Test Item Analysis Report Summaries*

The formats of the Reading, Mathematics, Science and Technology/Engineering, and History and Social Science *Test Item Analysis Report* are nearly identical. The following guidelines for interpretation of the report sections apply to all four of these reports.



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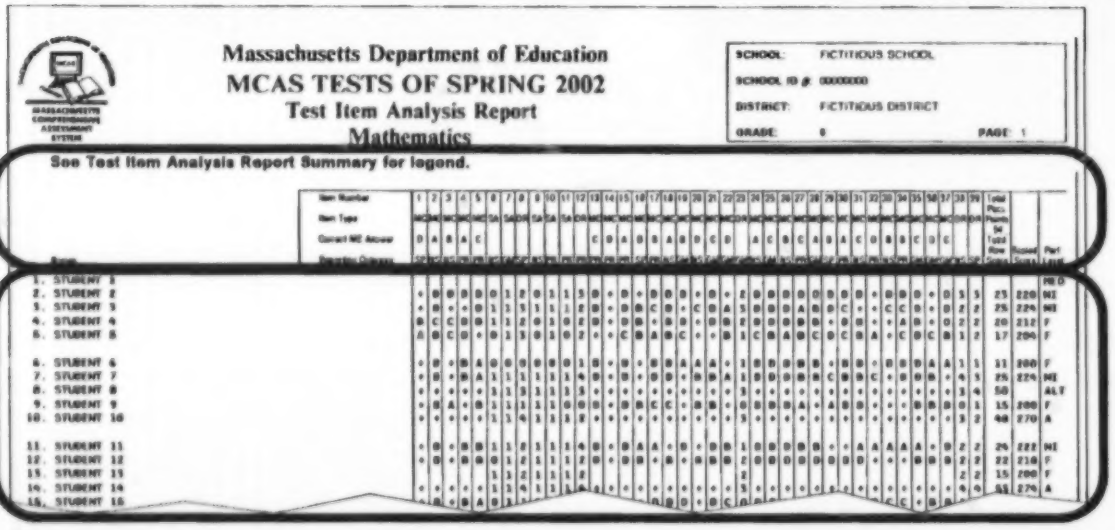
INDIVIDUAL STUDENT RESULTS: MATHEMATICS

Individual student results for all common test items are provided in the first section of the *Test Item Analysis Report*. The number of pages included in this section will depend upon the total number of students at the tested grade.



Massachusetts Department of Education
MCAS TESTS OF SPRING 2002
Test Item Analysis Report
Mathematics

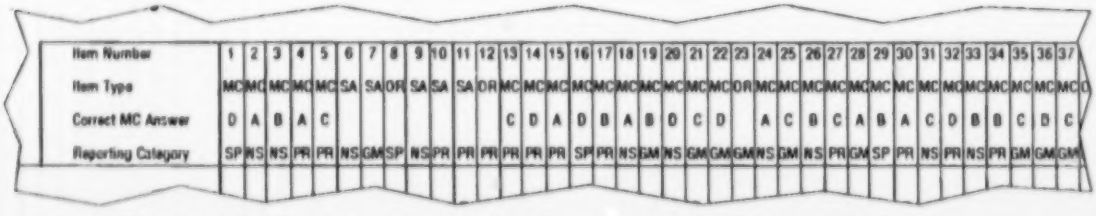
SCHOOL: FICTITIOUS SCHOOL
SCHOOL ID #: 00000000
DISTRICT: FICTITIOUS DISTRICT
GRADE: 8 PAGE: 1

See Test Item Analysis Report Summary for legend.

1.

2.

1. Item Information



Item Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
Item Type	MC	MC	MC	MC	MC	SA	SA	OR	SA	SA	SA	OR	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC	OR	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC
Correct MC Answer	D	A	B	A	C								C	D	A	D	B	A	B	D	C	D		A	C	B	C	A	B	A	C	D	B	B	C	D	C
Reporting Category	SP	NS	NS	PR	PR	NS	GM	SP	NS	PR	PR	PR	PR	PR	PR	SP	PR	NS	GM	NS	GM	GM	GM	NS	GM	NS	PR	GM	SP	PR	NS	PR	NS	PR	GM	GM	GM

Each column in the heading contains four types of information—item number, item type, correct multiple-choice answer, and reporting category—for each common item.

Item Number corresponds to the number of the question as it appears in the *Release of Spring 2002 Test Items* publication.

Item Type indicates whether the item was a multiple-choice (MC), open-response (OR), or short-answer (SA) [used in Mathematics only] question.

Correct MC Answer provides the letter option (A, B, C, D) for the correct answer for multiple-choice questions.

Reporting Category indicates the sub-area in either Reading, Mathematics, Science and Technology/Engineering, or History and Social Science in which each question is reported in the *School* and *District Reports*. Reporting category codes are listed in the Legend on the *Test Item Analysis Report* summaries.

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2. Body of the Report

Names	Reporting Category	SP	NS	NS	PR	PR	NS	GM	SP	NS	PR	PR	PR	PR	PR	SP	PR	
1. STUDENT 1																		
2. STUDENT 2		+	D	D	D	D	0	1	2	0	1	1	3	D	+	D	+	D
3. STUDENT 3		+	D	+	+	D	1	1	3	1	1	1	2	D	+	D	B	C
4. STUDENT 4		B	C	C	D	B	1	1	2	0	1	0	2	D	+	D	B	+
5. STUDENT 5		A	B	C	D	+	0	1	3	0	1	0	2	+	+	C	B	A

Individual Student Results

The body of the report lists all students in the tested grade alphabetically by last name. This section contains a row for each student enrolled in the school on the first day of testing. For students who are not included in the computation of aggregate school- and district-level results (see page 25 of this document), individual item results are provided, but no scaled score or performance level is reported. Where the scaled score would be reported, there is a two- or three-letter code used to identify the reason why this student was not included in the aggregate results. These codes appear in the Legend. A small number of students may receive a code of "INC" signifying that there was incomplete data (e.g., the student responded in more than one answer booklet).

For multiple-choice questions,

- a + sign in any MC column indicates that the student answered the question correctly;
- a letter indicates that an incorrect option (A, B, C or D) was selected; and
- a blank indicates that the student did not answer the question or selected more than one response.

Open-response questions were scored on a 0 through 4 scale; the student's scores for open-response questions are shown in the OR columns.

Short-answer questions were used in Mathematics only and were scored on a 0 through 1 scale; the student's scores for short-answer questions are shown in the SA columns only on the Mathematics *Test Item Analysis Report*.

Summary Scores

The final three columns of each row contain summary information about the student's performance. The student's Total Score is shown in the column following the final item, reported in terms of "raw" score points attained in Reading (Grade 3), Mathematics, Science and Technology/Engineering, or History and Social Science. The student's Total Score was calculated by adding one point for each correct multiple-choice (MC) question to the student's total scores for each open-response (OR) question and, in Mathematics, each short-answer (SA) question.

The Total Possible Points shown at the top of the column following the final item indicates the total possible "raw" score points attainable on each subject area test.

The student's scaled score is shown in the next column to the right, reported on a scale ranging from 200 to 280. This scaled score translates to one of the performance levels indicated in the final column. *Note:* In 2002, no scaled score or performance level is reported on the Grade 5 History and Social Science test or the Grade 5 and 8 Science and Technology/Engineering tests. No scaled score is reported in 2002 on the Grade 3 Reading test.

RESULTS AGGREGATED AT THE SCHOOL, DISTRICT, AND STATE LEVELS

The *Test Item Analysis Report* summaries (sample of Mathematics version shown below) show the performance of students on common test items aggregated by school, district, and state, as appropriate. In 2002, Grade 5 History and Social Science, Grade 5 and 8 Science and Technology/Engineering, and Grade 10 retest test results are reported only at the student level. No aggregate school, district, and state results are reported.

Massachusetts Department of Education
MCAS TESTS OF SPRING 2002
School Test Item Analysis Report Summary
Mathematics

SCHOOL/ID #: FICTITIOUS SCHOOL/0000
DISTRICT/ID #: FICTITIOUS DISTRICT/0000
GRADE: 8

Number of Students Included: 300

SAMPLE REPORT
FICTITIOUS DATA

Item Number	Item Type	Reporting Category	AVERAGE ITEM SCORE: School	District	State	PERCENTAGE OF SCHOOL'S TOTAL STUDENT RESPONSES (for each MC answer or SA/OR score point): Blank /0	A/1	B/2	C/3	D/4	Correct MC Answer
1	MC	NS	0.50	0.50	0.53	0	25	18	50	7	D
2	MC	NS	0.68	0.68	0.71	1	6	68	10	15	C
3	MC	NS	0.59	0.59	0.61	1	8	59	15	18	A
4	MC	GM	0.73	0.73	0.78	0	18	1	7	73	A
5	MC	NS	0.69	0.69	0.71	0	3	23	68	6	B
6	SA	PR	0.72	0.72	0.67	0	72	13	10	5	
7	SA	GM	0.38	0.38	0.47	0	26	12	24		
8	OR	NS	0.51	0.51	0.59	0	41	51			
9	SA	NS	1.69	1.69	1.75	7	22		6	0	
10	SA	PR	0.84	0.84	0.77	1	3			2	
11	SA	NS	0.56	0.56	0.58	0	35		4	6	
12	OR	PR	0.60	0.60	0.57				60	3	
13	MC	PR	0.74	0.74	0.69			4		3	
14	MC	GM	0.58	0.58		0	26	5			C
15	MC	SP	0.58	0.58		1	6		10		C
16	MC	PR	0.31			0			49	31	B
17	MC	NS			0.50	1	3		55	15	A
18	MC	SP	1	1.85	1.89		21	54	28	0	B
19	MC	NS		0.88		0	88	6	6	1	A
20	MC	S		0.67	0.67		11	21	67	1	B
21	MC	PR	0.54		0.54	0	10	17	19	54	D
22	MC		0.56	0.56	0.50	0	9	56	16	19	D
23	OR	PR	0	0.66	0.66	1	46	7	31	15	
24	MC	GM		0.83	0.81	0	4	86	7	3	D
25	MC	SP		0.64	0.65	0	22	8	64	6	B
26	MC	PR	0.67	0.67	0.72	0	67	2	11	20	C
27	MC	GM	1.52	1.52	1.59	20	24	43	11	2	C
28	MC	SP	0.32	0.32	0.39	1	27	35	32	5	A
29	MC	PR	0.76	0.76	0.70	1	9	10	4	76	D
30	MC	NS	0.63	0.63	0.53	1	53	12	8	26	C
31	MC	GM	0.66	0.66	0.53	1	3	68	13	15	B
32	MC	GM	0.60	0.60	0.59	1	18	13	8	60	D
33	MC	GM	0.62	0.62	0.56	1	5	7	62	24	A
34	MC	SP	0.61	0.61	0.56	2	7	10	21	61	A
35	MC	PR	0.76	0.76	0.77	1	78	5	6	10	A
36	MC	NS	1.74	1.74	1.64	10	24	52	13	1	D
37	MC	SP	0.75	0.75	0.65	1	4	18	1	75	C
38	OR	GM	0.82	0.82	0.73	1	4	82	8	6	
39	OR	SP	0.57	0.57	0.63	1	15	13	57	14	
		TOTAL	0.59	0.48	0.67						

LEGEND

Item Numbers can be directly cross-referenced to item numbers in the MCAS document, *Release of Spring 2002 Test Items.*

ITEM TYPE
MC = Multiple-choice item
SA = Short-answer item
OR = Open-response item

REPORTING CATEGORY
NS = Number Sense
PR = Patterns, Relations, and Functions
GM = Geometry
ME = Measurement
SP = Statistics and Probability

PERFORMANCE LEVEL CODES
A = Advanced
P = Proficient
N = Needs Improvement
W = Warning
INC = Incomplete data
MED = medically-documented absence
ALT = alternate assessment
LEP = Limited English Proficient and in school in the U.S. three years or less

KEY TO SCORE CODES
Multiple-choice items:
+ = correct answer (1 point earned)
A, B, C, or D = incorrect answer choice (0 points earned)
blank space = no answer chosen (0 points earned)

Short-answer items:
0 or 1 = number of points earned by response
blank space = no answer provided (0 points earned)

Open-response questions:
0, 1, 2, 3, or 4 = number of points earned by response
blank space = no answer provided (0 points earned)

Scaled Score Codes:
200-280 = scaled scores
blank space = student not included in summary

Process No.: [illegible]

1. 2. 3.

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1. Average Score

AVERAGE ITEM SCORE

Item Number	Item Type	Reporting Category	School	District	State
1	MC	NS	0.50	0.50	0.53
2	MC	NS	0.68	0.68	0.71
3	MC	NS	0.59	0.59	0.61
4	MC	GM	0.73	0.73	0.78
5	MC	NS	0.69	0.69	0.71
6	SA	PR	0.72	0.72	0.67
7	SA	GM	[illegible]	0.38	0.47

This section shows aggregated data for the school, district, and state, as appropriate. Items are listed by number, type, and reporting category, as explained earlier in this chapter. This section shows, for the school, district, and state, the average score for each multiple-choice question, open-response question and, for Mathematics, each short-answer question. For multiple-choice and short-answer questions which are scored 0-1, the average score is equivalent to the percentage of students who answered the question correctly. The total at the bottom of the column is the sum of the individual item scores. These statistics allow educators to compare the performance of students in the school to students in the district and across Massachusetts, and identify strengths and weaknesses in curriculum and instruction.

2. Percentage of School's Total Student Responses

PERCENTAGE OF SCHOOL'S TOTAL STUDENT RESPONSES

(for each MC answer or SA/OR score point)

Blank /0	A/1	B/2	C/3	D/4	Correct MC Answer
0	25	18	50	7	D
1	6	68	10	15	C
1	8	59	15	18	A
0	18	1	7	73	A
0	[illegible]	23	[illegible]	[illegible]	B

This section shows two kinds of aggregated data:

- For each **multiple-choice question**, the section shows the percentage of students in the school who chose each answer option (blank, A, B, C, or D); the correct answer is provided in the far right column. This information allows educators to analyze students' mistakes and identify possible misconceptions held by students in the school.
- For **open-response** and **short-answer** (in Mathematics only) questions, the section shows the percentage of students in the school at each score point (blank/0, 1, 2, 3, or 4 for open-response questions; blank/0 or 1 for short-answer questions). Open-response data can be used in conjunction with item rubrics and sample student work available on the Department of Education website at **www.doe.mass.edu/mcas/student.**

3. Legend

This section explains how to interpret codes that appear throughout the page of the *Test Item Analysis Report* for mathematics.

The information on **Item Numbers** and **Item Type** applies to the *Test Item Analysis Report* and summaries.

Reporting Category information given here refers to the two-letter codes that appear in columns (above the horizontal line) within the *Test Item Analysis Report*.

The information given in the **Key to Score Codes** section explains the symbols, letters, and numbers used to report students' performance.

LEGEND

Item Numbers can be directly cross-referenced to item numbers in the MCAS document, *Release of Spring 2002 Test Items*.

ITEM TYPE
MC = Multiple-choice item
SA = Short-answer item
OR = Open-response item

REPORTING CATEGORY
NS = Number Sense
PR = Patterns, Relations, and Functions
GE = Geometry
ME = Measurement
SP = Statistics and Probability

PERFORMANCE LEVEL CODES
A = Advanced
P = Proficient
NI = Needs Improvement
W = Warning
INC = Incomplete data
MED = medically-documented absence
ALT = alternate assessment
LEP = Limited English Proficient and in school in the U.S. three years or less

KEY TO SCORE CODES
Multiple-choice items:
+ = correct answer (1 point earned)
A, B, C, or D = incorrect answer choice (0 points earned)
blank space = no answer chosen (0 points earned)

Short-answer items:
0 or 1 = number of points earned by response
blank space = no answer provided (0 points earned)

Open-response questions:
0, 1, 2, 3, or 4 = number of points earned by response
blank space = no answer provided (0 points earned)

Scaled Score Codes:
200-280 = scaled scores
blank space = student not included in summary

Process No. 1998050-BTIASM8-0050-07250-2

V. Understanding the School *and* District Reports

OVERVIEW

The *School Report* and the *District Report* packages provide MCAS results for schools/districts. A separate *School Report* and *District Report* has been produced for each grade level—3, 4, 6, 7, 8, or 10—tested in spring 2002. No *School Report* or *District Report* has been produced for the following grades and content areas because no aggregate school or district results are reported for these areas in 2002:

- grade 5

  History and Social Science

  Science and Technology/Engineering

- grade 8

  Science and Technology/Engineering

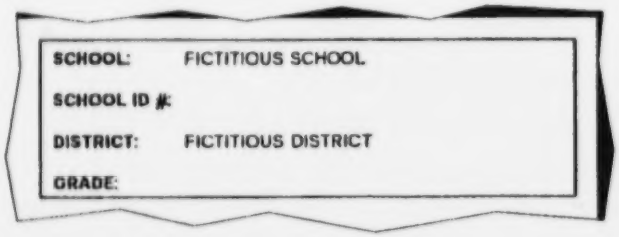
- Retests

  English Language Arts

  Mathematics

Text in this chapter refers only to the *MCAS School Report*. The data which are reported, the report format, and guidelines for interpreting the reported data are identical for the *School Report* and the *District Report*. The only difference between the *School Report* and the *District Report* is that the *District Report* includes no individual school data. Educators and others who are reviewing the *District Report* should refer to this chapter for applicable information.

IDENTIFICATION



The box in the upper right corner of each page shows the school name, its eight-digit identification number, the district name, and the grade level for which the report has been generated.

MINIMUM NUMBER OF STUDENTS NEEDED TO GENERATE REPORTS

In order to ensure confidentiality of individual student results and discourage generalizations about school performance based on very small populations, the Department of Education has established minimum numbers of students tested for reporting results for

- overall school results
- school results disaggregated by student status
- subject area subscores

Consequently, schools with a very small number of students enrolled in a grade tested may not show results in some sections of their *School Report*. No *School Report* is generated for any school that tested fewer than ten students at a particular grade; results for students in these schools are included in district- and state-level results. The minimum number of tested students required for each reporting section is presented in the table below.

TABLE 1. MINIMUM NUMBER OF STUDENTS TESTED (AT EACH GRADE) TO GENERATE SCHOOL RESULTS

Reporting Section	*Minimum Number of Students*
Percentages of Students by Performance Level and Scaled Scores	10
Performance Level and Scaled Score Results For Selected Subgroups	10
Subject Area Subscores	12

On each MCAS test, matrix-sampled items are organized into sets of 12 forms. All sets of forms of a subject area test must have been administered in a school for accurate computation of subject area subscores. If all sets of forms of a test were not administered in a school, subject area subscores were not produced for that school.

ORGANIZATION OF SCHOOL REPORT

Each *School Report* is organized into three sections. Section A provides enrollment information and scaled score results for students who participated in the Standard MCAS tests. Section B provides performance level results for all students in the school, including those students who participated in the MCAS Alternate Assessment. Note that in the *District Report*, results also include students in out-of-district placements. Section C provides a three-year comparison of results in each subject area tested. The grade 10 *School Report* package also includes a graphic display of competency determination results for the class of 2004.

The *School Report* includes the following reports of results from the spring 2002 MCAS tests:

A. Students Tested on Standard Test

B. Distribution of Results on Standard Test by Scaled Score Interval

C. Scaled Score Results For Selected Subgroups of Students

D. Subject Area Subscores on Standard Test

E. Performance Level Results

F. Performance Level Results For Selected Subgroups of Students

G. Three-Year Comparison of School Results

H. Competency Determination Results (grade 10 only)

A. STUDENTS TESTED ON STANDARD TEST

The pages titled **Students Tested** show, for the school, district, and state, the number and percentage of students in each of three student status groups included/not included in scores in the spring 2002 Standard MCAS tests.

Data for students included/not included in scores at the school level are reported according to the following student status groups (these definitions are also found on page 2 of the *Report*):

- **Regular:** Students who did not meet the definitions below for Students with Disabilities or Limited English Proficient (LEP) students as of spring 2002.
- **Students with Disabilities:** Students who had an Individualized Education Plan (IEP) or were provided with a plan of instructional accommodations under Section 504 of the Rehabilitation Act of 1973 as of spring 2002.
- **Limited English Proficient:** Students whose first language was a language other than English who were unable to perform ordinary classroom work in English, as of spring 2002. LEP students may have received instruction in a range of programs and settings that include
  - Transitional Bilingual Education (TBE) programs
  - two-way bilingual programs
  - English as a Second Language (ESL) programs
  - "sheltered" English language program
  - other language support or tutoring

The table below is an example of those included in the *School* and *District Reports*.

TABLE 2. SAMPLE TABLE SHOWING STUDENTS INCLUDED IN SCORES AND NOT INCLUDED IN SCORES

STATE									
STUDENT STATUS	NUMBER OF STUDENTS ENROLLED	INCLUDED IN SCORES				NOT INCLUDED IN SCORES			
		Tested		Absent		Medically Exempted		Other Not Tested	
		#	%	#	%	#	%	#	%
REGULAR	63931	59565	96	840	1	267	0	1191	2
STUDENTS WITH DISABILITIES	10071	8842	88	193	2	138	1	898	9
LIMITED ENGLISH PROFICIENT	8130	619	10	18	1	5	0	5480	69
TOTAL	82132	69026	93	751	1	380	1	3519	4

Number of Students Enrolled

Column 2 of each table shows the number of students **Enrolled** in the tested grade on the first day of testing. The total number of students **Enrolled** is comprised of the number of students **Tested** or **Absent** plus the number of students that were **Medically Documented Absent** and **Other Not Tested.** The number of students reported as enrolled may differ across subject areas because of changes in student enrollment during the MCAS test administration period.

Students Included in Scores

Columns 3 through 6 of each table show the number and percentage of students who were included in the 2002 MCAS school results.

Tested Students

The numbers and percentages of **Regular** students include students who do not meet the definition of **Students with Disabilities** or **Limited English Proficient** (LEP) students and who participated under standard conditions.

The numbers and percentages of **Students with Disabilities** include students who participated under standard conditions, as well as students who participated with approved accommodations in accordance with Department of Education guidelines.

The numbers and percentages of **Limited English Proficient** (LEP) students include LEP students who took the English version of MCAS (primarily, LEP students who had been enrolled in school in the United States for more than three years), as well as eligible LEP students who took the Spanish-language version of MCAS. The Spanish-language version of MCAS included tests in Mathematics, Science and Technology/Engineering, and History and Social Science only. Therefore, limited English proficient students who took the Spanish-language version of MCAS are shown as **Other Not Tested** on the English Language Arts (page 3) of the *School Report*.

Absent Students

Columns 5 and 6 show the number and percentage of students who were reported **Absent** during the testing period in spring 2002 as indicated by designated school personnel on *Student Answer Booklets*.

What is the impact of students who were Absent? Students from any student status group who were absent during the testing period, and whose absence was not medically documented, received a minimum score, and by default, a performance level of *Warning (Failing)*. Absent students are included in the determination of the scaled scores and performance level results for schools. This reporting policy is based on the legal requirement that **all** students participate in the MCAS testing program.

Some students reported as **Absent** on the *Student Answer Booklet* participated in one or more portions of a subject area test. Students may have been present for some, but not all, portions of the test. Given that these students would receive the minimum score by default, these students were designated as **Tested** and received their actual score based on the portions of the subject area test in which they participated.

Students Not Included in Scores

Columns 7–10 of each table show the number and percentage of students who did not participate in the spring 2002 Standard MCAS tests, and were reported as either **Medically Documented Absent** or **Other Not Tested.**

Medically Documented Absent Students

Students in this category are those who obtained a written statement from a licensed medical doctor, stating both the medical reason that prevented them from taking the test and the dates for which they were absent due to the medical condition.

What is the impact of students who were Medically Documented Absent? Medically Documented Absent students were not included in the determination of scaled score or performance level results.

Other Not Tested

Four categories of students are reported as **Other Not Tested:**

(1) students with disabilities for whom the standard test was not appropriate even with accommodations and who participated in MCAS through the Alternate Assessment. Performance level results for these students are included in the performance level section of the *School Report*.

(2) limited English proficient (LEP) students who had been in school in the United States for three or fewer years and for whom the Spanish-language version of MCAS was not required in accordance with Department guidelines (designated as **Other Not Tested** for all subject area tests)

(3) limited English proficient (LEP) students who had been in school in the United States for three or fewer years who participated in the Spanish-language version of MCAS and who, consequently, were designated as **Other Not Tested** for English Language Arts tests only since there is no Spanish version of the English Language Arts test. The Spanish-language version included tests for Mathematics, Science and Technology/Engineering, and History and Social Science only; there was no English Language Arts section in the Spanish-language version of MCAS.

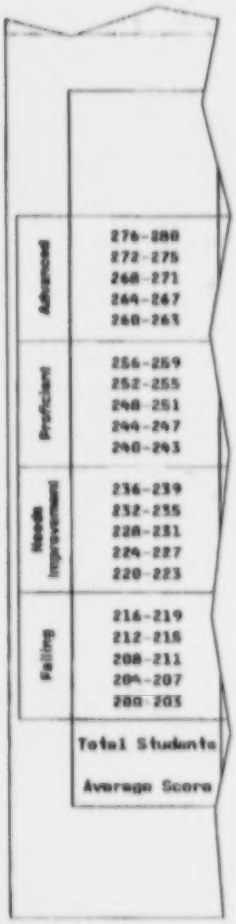
(4) Additionally, there are a small number of cases where *Student Answer Booklets* or *Composition Booklets* could not be matched, or students responded in more than one answer booklet or students' enrollment status changed during the testing period. For 2002 reports, these cases are also reported as **Other Not Tested.** Often, results for these students are corrected after the initial reporting of MCAS test results.

What is the impact of students who were Other Not Tested? Because students who were **Other Not Tested** could not participate in the standard version of MCAS, school scores are not affected by **Other Not Tested** students. Unlike students reported as absent, these students were not assigned minimum scores and were not included in computation of school and district results.

B. DISTRIBUTION OF RESULTS ON STANDARD TEST BY SCORE INTERVAL

These results show the distribution of student performance across the MCAS performance levels for each of the subject areas tested. The distribution within each performance level is also shown across selected score intervals. The percentage and number of students (at the school, district, and state levels) performing at each of these intervals are displayed.

This table is designed to help schools see how students are clustered within each performance level and to measure movement within levels over time. It can also be used to illustrate how two or more schools with similar scaled scores may have very different percentages of students at each performance level, resulting from different distributions of individual scores within performance levels.



C. SCALED SCORE RESULTS FOR SELECTED SUBGROUPS OF STUDENTS

The information on these report pages is used for two primary purposes: to determine how effectively school programs serve various student populations, and to promote fair comparisons between schools and between districts by allowing them to compare the performance of similar student groups.

Each page shows subject-specific results for the following selected subgroups of students:

Student Status — Regular, Students with Disabilities, Limited English Proficient

Gender — Female, Male

Race/Ethnicity — African American/Black, Asian or Pacific Islander, Hispanic, Mixed or Other, Native American, White

Received Title 1 Services — Yes, No

Eligible for Free/Reduced Price (F/RP) Lunch — Yes, No

Migrant Student — Yes, No

Total Students

Within each of these student status sections, the average scaled score results are displayed for the school, district, and state. These tables also show the number and percentage of students in each subgroup for the school, district, and state, respectively.

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D. SUBJECT AREA SUBSCORES ON STANDARD TEST

The purpose of these report sections is to help schools determine the extent to which their curriculum and instruction are effective in helping students achieve the standards contained in particular strands and substrands of the *Curriculum Frameworks*.

Subject area subscores are the only reported MCAS scores based on both common and matrix-sampled items. Unlike common items, matrix-sampled items differ across test forms and are used to report performance on a broader range of specific curriculum goals than is possible by using common items only.

Subject area subscores provide specific information on performance in various subdomains ("Reporting Categories") of the tested subject areas; for example, Number Sense, is a subdomain of Grade 4 Mathematics.[1]

Information about each reporting category within each subject area tested includes

- the number of possible points for that category on the common items, the matrix items, and the total number of possible points.
- the average total number of points attained and the percentage of the total possible number of points attained at the school, district, and state levels.[2]

CAUTION: ***Raw Scores versus Scaled Scores.*** The total number of possible points for a particular subject area reporting category is based on raw score points, which are not the same as scaled scores used elsewhere throughout the *Report*. Raw scores are based on the total number of points earned for all items administered in a particular subject area test. Raw scores are converted to scaled scores through a data analysis process known as scaling. Scaling converts raw data points from one scale to another in a process that is analogous to the conversion of temperature in degrees Fahrenheit to degrees Celsius. See Appendix A of the 2002 MCAS Raw Score to Scaled Score Conversions.

CAUTION: ***Longitudinal Comparisons.*** Comparisons of performance on subject area subscores across years must be made with caution because the number of items contributing to **each subscore** is relatively small and the difficulty of the items may vary somewhat from year to year. The pool of matrix-sampled items will vary from year to year as items move from the matrix-sampled sections to the common sections of the tests to replace publicly-released common items. New items are developed annually to supplement the matrix-sampled item pool.

This caution applies only to raw scores, not to performance level results and scaled scores. This is because performance level results and scaled scores are statistically equated from year to year.

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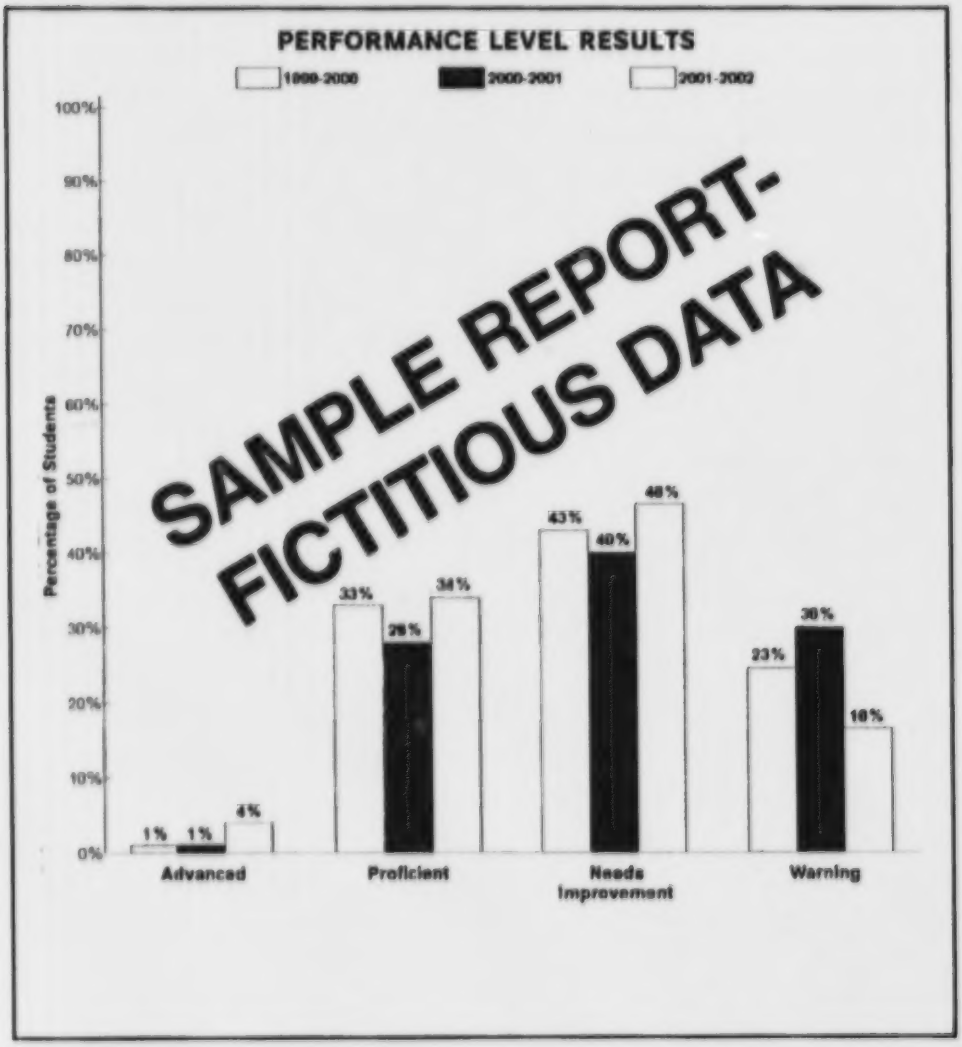
1 All sets of forms of a subject area test must have been administered in a school for accurate computation of subject area subscores. If all forms of the test were not administered in a school, subject area subscores were not reported for that school.

2 Because schools may have had different numbers of students taking each of the test forms, average points were determined in a two-step process. First, the average raw score was determined for each unique item. Second, the sum of the average raw scores computed in step 1 was calculated. Further information about MCAS scaling methods can be found in the *MCAS Technical Report*.

E. PERFORMANCE LEVEL RESULTS

Performance level results indicate, for each of the subject areas tested, the percentage of students performing at each of the four MCAS performance levels: *Advanced, Proficient, Needs Improvement,* and *Warning (Failing)*. These percentages are based on the results of all tested students on the Standard MCAS tests and the MCAS Alternate Assessment. These results also include **Absent** students who received the minimum score (200), but do not include **Medically Documented Absent** or **Other Not Tested** students (defined above), for whom results were not generated.

Note that the *District Report* also includes the performance level results of students in out-of-district placements.



F. PERFORMANCE LEVEL RESULTS FOR SELECTED SUBGROUPS OF STUDENTS

The information on these report pages is used for two primary purposes: to determine how effectively school programs serve various student populations, and to promote fair comparisons between schools and between districts by allowing them to compare the performances of similar student groups.

Each page shows subject-specific results for the following selected subgroups of students:

Student Status — Regular, Students with Disabilities, Limited English Proficient

Gender — Female, Male

Race/Ethnicity — African American/Black, Asian or Pacific Islander, Hispanic, Mixed or Other, Native American, White

Received Title 1 Services — Yes, No

Eligible for Free/Reduced Price (F/RP) Lunch — Yes, No

Migrant Student — Yes, No

Total Students

Within each of these student status sections, the percentage of students at each performance level is displayed for the school, district, and state. These tables also show the number and percentage of students in each subgroup for the school, district, and state, respectively.

Massachusetts Department of Education
MCAS TESTS OF SPRING 2002
Performance Level Results for Selected Subgroups of Students
Mathematics

SCHOOL: FICTITIOUS SCHOOL
SCHOOL ID #:
DISTRICT: FICTITIOUS DISTRICT
GRADE:

	SCHOOL						DISTRICT						STATE					
	STUDENTS INCLUDED		PERCENT OF STUDENTS AT EACH PERFORMANCE LEVEL				STUDENTS INCLUDED		PERCENT OF STUDENTS AT EACH PERFORMANCE LEVEL				STUDENTS INCLUDED		PERCENT OF STUDENTS AT EACH PERFORMANCE LEVEL			
	#	%	A	P	NI	W	#	%	A	P	NI	W	#	%	P	D	NI	W
STUDENT STATUS																		
REGULAR	115	91	2	44	44	27	452	90	4	42	[illegible]	[illegible]	[illegible]	86	4	41	28	28
STUDENTS WITH DISABILITIES	11	8	0	83	55	64	44	8	0	[illegible]	[illegible]	[illegible]	5500	[illegible]	0	51	48	48
LIMITED ENGLISH PROFICIENT	1	0	0	99	99	0	4	0	[illegible]	[illegible]	[illegible]	[illegible]	600	[illegible]	1	95	2	2
GENDER																		
FEMALE	67	53	5	27	27	42	267	[illegible]	[illegible]	31	27	27	[illegible]	[illegible]	23	21	22	22
MALE	58	46	5	26	26	33	[illegible]	[illegible]	[illegible]	30	[illegible]	[illegible]	[illegible]	44	5	30	33	33
RACE/ETHNICITY																		
AFRICAN AMERICAN/BLACK	28	20	2	43	[illegible]	27	[illegible]	[illegible]	20	[illegible]	[illegible]	[illegible]	14003	20	2	34	32	32
ASIAN OR PACIFIC ISLANDER	22	17	10	[illegible]	[illegible]	27	[illegible]	17	[illegible]	[illegible]	[illegible]	33	10997	16	17	23	33	33
HISPANIC	17	14	6	[illegible]	[illegible]	[illegible]	68	[illegible]	[illegible]	[illegible]	37	37	9678	14	26	29	35	35
MIXED OR OTHER	8	6	[illegible]	[illegible]	[illegible]	36	38	[illegible]	[illegible]	26	33	33	4000	6	8	22	31	31
NATIVE AMERICAN	12	9	[illegible]	[illegible]	[illegible]	25	[illegible]	[illegible]	[illegible]	49	29	29	1123	9	49	29	20	20
WHITE	50	51	[illegible]	[illegible]	24	27	[illegible]	[illegible]	8	50	33	33	3759	30	8	48	25	25
RECEIVED TITLE I SERVICES																		
YES	18	[illegible]	6	[illegible]	27	42	72	13	8	29	36	36	9012	13	8	29	35	35
NO	107	85	[illegible]	27	27	34	428	85	8	27	35	35	53588	82	7	25	34	34
ELIGIBLE FOR F/RP LUNCH																		
YES	43	34	[illegible]	[illegible]	26	38	172	34	5	28	33	33	21568	34	13	28	43	43
NO	82	65	[illegible]	37	37	27	328	64	5	36	28	28	8001	42	6	34	28	28
MIGRANT STUDENT																		
YES	1	0	99	0	0	0	4	0	89	8	1	1	502	1	75	18	8	8
NO	124	99	3	29	24	36	496	99	5	23	38	38	62001	99	6	32	34	34
TOTAL STUDENTS	125	99	5	27	27	42	500	98	9	31	34	34	62500	96	13	30	27	27

SAMPLE REPORT-
FICTITIOUS DATA

G. THREE-YEAR COMPARISON OF SCHOOL RESULTS

These pages of the 2002 *School Report* provide the school results from the 2000, 2001, and 2002 MCAS tests. Because of the shifts of some tests across grades and the introduction of new tests, there will not be three years of test results for several tests.

These data, along with results from the 1998 and 1999 MCAS tests, can be used to conduct longitudinal comparisons of performance level and scaled score results. However, because of the reporting changes noted at the beginning of this guide, comparisons should be made cautiously.

DISTRIBUTION OF RESULTS ON STANDARD TEST BY SCALED SCORE INTERVAL

	Scaled Score	Mathematics 1999-2000 Number	Percent	2000-2001 Number	Percent	2001-2002 Number	Percent
Advanced	276 - 280	0	0	0	0	0	0
	272 - 275	0	0	0	0	0	0
	268 - 271	0	0	1	1	1	1
Proficient	264 - 267	0	0	1	1	2	1
	260 - 263	1	1	0	0	1	1
	256 - 259	1	1	7	5	8	6
	252 - 255	4	3	6	4	6	4
	248 - 251	6	4	3	2	5	4
	244 - 247	15	12	10	7	15	11
	240 - 243	17	13	11	8	14	10
Needs Improvement	236 - 239	14	11	13	10	17	12
	232 - 235	17	13	8	6	15	11
	228 - 231	7	5	12	9	11	8
	224 - 227	11	8	12	9	12	9
	220 - 223	9	7	10	7	11	8
Warning	216 - 219	4	3	9	7	3	2
	212 - 215	5	4	7	5	4	3
	208 - 211	5	4	7	5	4	3
	204 - 207	3	2	6	4	4	3
	200 - 203	15	12	12	9	8	6
Total Students		130		136		142	
Average Score		229		228		239	

SAMPLE REPORT-FICTITIOUS DATA

FOOTNOTE:
Scaled score results are based only on students who completed the standard MCAS tests. Scaled score results from 2000 are not directly comparable to scaled score results in later years due to changes in the computation of scaled scores below 220 and above 260. Performance level results for the 2002 MCAS tests include students who participated in MCAS through the Alternate Assessment.

Process No. 00000000-00SCH13M-0000-00000-1

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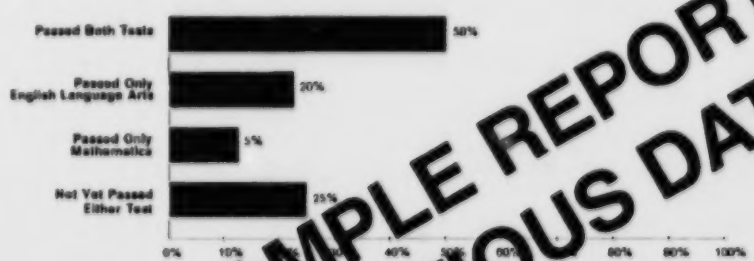
H. COMPETENCY DETERMINATION RESULTS (Grade 10 Only)

This report displays information on the status of grade 10 students' progress toward earning a competency determination. Students must pass both the English Language Arts and Mathematics tests to earn a competency determination. This report shows the number and percentage of grade 10 students in the school, district, and state who have passed both tests, passed either the English Language Arts or Mathematics test, or who have not yet passed either test. Note that the count of students who have not yet passed either test includes students who did not participate in MCAS testing at grade 10.

The competency determination report does not include results for students in the class of 2003 who participated in the retest. A progress report on the class of 2003 will be issued when the latest round of MCAS test data has been combined with enrollment data and results from previous MCAS administrations.

Massachusetts Department of Education
MCAS TESTS OF SPRING 2002
Competency Determination Results

SCHOOL:	FICTITIOUS SCHOOL
SCHOOL ID #:	
DISTRICT:	FICTITIOUS DISTRICT
GRADE:	



SAMPLE REPORT-
FICTITIOUS DATA

	School		District		State	
	Number of Students	Percentage of Students	Number of Students	Percentage of Students	Number of Students	Percentage of Students
Passed Both English Language Arts and Mathematics	100	50%	2000	50%	36000	50%
Passed Only English Language Arts	40	20%	800	20%	14400	20%
Passed Only Mathematics	10	5%	200	5%	3600	5%
Not Yet Passed Both English Language Arts and Mathematics	50	25%	1000	25%	18000	25%
Total Number of Students Enrolled	200	100%	4000	100%	72000	100%

Appendix A

Raw Score to Scaled Score Conversions

Table 1. 2002 MCAS Grade 4 Raw Score to Scaled Score Conversions

Grade 4 Total Score	*English Language Arts Scaled Score*	*Mathematics Scaled Score*
72	280	
71	280	
70	280	
69	280	
68	276	
67	272	
66	270	
65	266	
64	264	
63	262	
62	258	
61	256	
60	254	
59	252	
58	250	
57	248	
56	248	
55	246	
54	244	280
53	242	280
52	242	278
51	240	274
50	238	270
49	236	268
48	234	266
47	234	264
46	232	262
45	230	260
44	228	258
43	228	256
42	226	252
41	224	250
40	222	248
39	222	246

TABLE 1. 2002 MCAS GRADE 4 RAW SCORE TO SCALED SCORE CONVERSIONS (CONTINUED)

Grade 4 Total Score	*English Language Arts Scaled Score*	*Mathematics Scaled Score*
38	220	244
37	220	242
36	220	240
35	218	238
34	218	236
33	218	236
32	218	234
31	216	232
30	216	232
29	216	230
28	214	228
27	214	228
26	214	226
25	214	224
24	212	224
23	212	222
22	212	220
21	210	220
20	210	218
19	208	218
18	208	218
17	208	216
16	208	216
15	206	214
14	206	214
13	206	212
12	204	212
11	204	210
10	204	208
9	202	206
8	202	204
7	202	204
6	202	202
5	200	202
4	200	200
3	200	200
2	200	200
1	200	200
0	200	200

TABLE 2. 2002 MCAS GRADE 6 RAW SCORE TO SCALED SCORE CONVERSIONS

Grade 6 Total Score	*Mathematics Scaled Score*
54	280
53	280
52	278
51	272
50	270
49	268
48	266
47	264
46	262
45	260
44	258
43	256
42	254
41	252
40	250
39	248
38	246
37	244
36	242
35	240
34	236
33	234
32	232
31	230
30	228
29	226
28	224
27	222
26	220
25	220
24	218
23	218
22	218
21	218
20	216
19	216
18	216
17	214
16	214
15	214
14	212

TABLE 2. 2002 MCAS GRADE 6 RAW SCORE TO SCALED SCORE CONVERSIONS (CONTINUED)

Grade 6 Total Score	*Mathematics Scaled Score*
13	212
12	210
11	208
10	208
9	206
8	204
7	202
6	202
5	200
4	200
3	200
2	200
1	200
0	200

TABLE 3. 2002 MCAS GRADE 7 RAW SCORE TO SCALED SCORE CONVERSIONS

Grade 7 Total Score	*English Language Arts Scaled Score*
72	280
71	280
70	280
69	280
68	278
67	274
66	272
65	268
64	266
63	264
62	262
61	260
60	258
59	256
58	254
57	254
56	252
55	250
54	250
53	248
52	246
51	246
50	244
49	244
48	242
47	242
46	240
45	238
44	236
43	236
42	234
41	232
40	230
39	230
38	228
37	226
36	224
35	224
34	222
33	220
32	220
31	218

TABLE 3. 2002 MCAS GRADE 7 RAW SCORE TO SCALED SCORE CONVERSIONS (CONTINUED)

Grade 7 Total Score	*English Language Arts Scaled Score*
30	218
29	218
28	218
27	216
26	216
25	216
24	214
23	214
22	212
21	212
20	212
19	210
18	210
17	208
16	208
15	208
14	206
13	206
12	206
11	204
10	204
9	204
8	202
7	202
6	202
5	200
4	200
3	200
2	200
1	200
0	200

TABLE 4. 2002 MCAS GRADE 8 RAW SCORE TO SCALED SCORE CONVERSIONS

Grade 8 *Total Score*	*Mathematics* *Scaled Score*	*History and Social Science Scaled Score*
54	280	280
53	280	280
52	276	280
51	272	280
50	270	280
49	268	280
48	266	280
47	264	274
46	262	264
45	262	258
44	260	254
43	258	252
42	256	248
41	254	246
40	252	244
39	250	242
38	248	240
37	246	238
36	244	236
35	242	234
34	240	232
33	238	230
32	236	230
31	234	228
30	232	226
29	230	224
28	228	224
27	226	222
26	224	220
25	222	220
24	220	218
23	220	218
22	220	218
21	218	218
20	218	216
19	218	216
18	216	216
17	216	214
16	216	214
15	214	212
14	214	212
13	212	210

TABLE 4. 2002 MCAS GRADE 8 RAW SCORE TO SCALED SCORE CONVERSIONS (CONTINUED)

Grade 8 Total Score	*Mathematics Scaled Score*	*History and Social Science Scaled Score*
12	212	210
11	210	208
10	210	206
9	208	204
8	204	204
7	204	202
6	202	202
5	202	200
4	200	200
3	200	200
2	200	200
1	200	200
0	200	200

TABLE 5. 2002 MCAS GRADE 10 RAW SCORE TO SCALED SCORE CONVERSIONS

Grade 10 Total Score	*English Language Arts Scaled Score*	*Mathematics Scaled Score*
72	280	
71	280	
70	280	
69	278	
68	274	
67	270	
66	268	
65	266	
64	264	
63	262	
62	260	
61	258	
60	256	280
59	252	280
58	250	280
57	248	276
56	246	274
55	244	272
54	242	270
53	242	268
52	240	268
51	236	266
50	234	266
49	232	264
48	230	264
47	228	264
46	226	262
45	224	262
44	222	262
43	220	260
42	220	260
41	220	258
40	218	256
39	218	254
38	218	252
37	218	250
36	218	250
35	216	248
34	216	246
33	216	244
32	216	242
31	216	240
30	214	238

TABLE 5. 2002 MCAS GRADE 10 RAW SCORE TO SCALED SCORE CONVERSIONS (CONTINUED)

Grade 10 Total Score	*English Language Arts Scaled Score*	*Mathematics Scaled Score*
29	214	236
28	214	234
27	214	232
26	214	230
25	212	228
24	212	226
23	212	224
22	210	220
21	210	220
20	210	220
19	210	218
18	208	218
17	208	218
16	206	218
15	206	216
14	206	216
13	204	216
12	204	214
11	204	214
10	204	212
9	202	212
8	202	208
7	202	206
6	202	206
5	200	204
4	200	204
3	200	202
2	200	202
1	200	200
0	200	200

Calculating Threshold Scores

In order to determine the threshold score (the minimum total test score for each performance level) on each MCAS test, panelists participated in a standard-setting process prior to the first year results that were reported for that test. For example, threshold scores for the Grade 10 Mathematics test were established in 1998, threshold scores for the grade 8 History and Social Science test were established in 1999, and threshold scores for the Grade 3 Reading test were established in the summer of 2001. To maintain standards and allow comparison over time, the standards established for these tests must remain unchanged across years.

Because all common MCAS test items are released each year, the test items on the 2002 test are different from the items on the previous test and they may vary in difficulty from items on the previous tests. To maintain standards over time, the threshold scores representing those standards may change to reflect difference in the difficulty across years. MCAS tests are linked across years through a process called equating. Based on the equating process, the adjustments in the threshold scores needed to maintain the original MCAS standards on the 2002 MCAS tests are determined. The table below shows the threshold scores for the MCAS tests of Spring 2002.

Threshold Scores, MCAS Tests of Spring 2002

			Threshold Score Between Performance Levels		
Grade	Subject Area	Maximum Score*	Advanced/ Proficient	Proficient/ Needs Improvement	Needs Improvement/ Warning (Failing)
3	Reading	40	N/A	29	16
4	English Language Arts	72	62	51	36
	Mathematics	54	45	36	21
6	Mathematics	54	45	35	25
7	English Language Arts	72	61	46	32
8	Mathematics	54	44	34	22
	History and Social Science	54	45	38	25
10	English Language Arts	72	62	52	41
	Mathematics	60	42	31	20

* The maximum score is the total number of points that a student could earn in the subject area if he/she answered all of the multiple-choice questions correctly (one point per question) and received the highest possible scores for all open-response questions, short-answer questions, and the writing composition.

Appendix B

MCAS-Related References

MASSACHUSETTS *CURRICULUM FRAMEWORKS*

Curriculum Frameworks in English Language Arts (2001); *Mathematics* (1996 and 2000); *Science and Technology/Engineering* (2001); and *History and Social Science* (1997) describe what students should know and be able to do at various grade spans.

MCAS GUIDES

Overview of the MCAS Tests (2001) provides a summary of the 2001 MCAS tests. *Guide to the Massachusetts Comprehensive Assessment System: English Language Arts* (1998); *Guide to the Massachusetts Comprehensive Assessment System: Mathematics* (1998); *Guide to the Massachusetts Comprehensive Assessment System: Science & Technology/Engineering* (1998); *Guide to the Massachusetts Comprehensive Assessment System: History and Social Science* (1999) describe how the *Curriculum Framework* learning standards are tested by MCAS.

OTHER RESOURCES

The Massachusetts Comprehensive Assessment System: Release of Spring 2002 Test Items (2002) contains all of the test questions from the 2002 MCAS tests that were used as the basis for student results.

Requirements for the Participation of Students with Disabilities (Spring 2002 Update) (2002) outlines the requirements for participation and allowable accommodations for students with disabilities.

Requirements for the Participation of Students with Limited English Proficiency in MCAS: Spring 2002 outlines the requirements for participation for LEP students.

The Massachusetts School and District Accountability System: Preparing All Students to Meet Higher Standards (2000) provides an overview of the state's accountability system.

Student Records: Questions, Answers and Guidelines (2002) contains information about the Massachusetts Student Record Regulations.

District-Wide Student Success Plan: Key Questions (2000) outlines the requirements, under Section 137 of the Acts of 2000, for districts in which more than 20 percent of the students have scored at the *Warning/Failing* level on an MCAS test in ELA or Mathematics to develop Individual Student Success Plans for all students who scored at the level.

1 2 3 4 5 6 7 8 9 10 11 12 A B C D E

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